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ABSTRACT

Numerous innovative educational techniques and programs for children in a rural setting are presented, along with a suggested strategy for change in rural schools. Chapter 1 defines the role of rural education within the perspective of the prime goal of education in America: to provide equal opportunities for all to share in America's wealth. Innovative programs such as the Western States Small Schools Project, which have had major impacts on rural schools, are discussed in Chapter 2. Specific innovations (technological, strategic, and miscellaneous) are described in Chapter 3. The fourth and final chapter suggests a conceptual model which centers around individualized inservice training as a means to cause educational change effectively within a rural setting. The document contains a list of references and a list of selected sources. (AI)

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EDUCATIONAL INNOVATIONS IN RURAL AMERICA

by

ALFRED P. WILSON, Ed. D.

Assistant Professor of Educational Administration
New Mexico State University

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Chapter 1

1. RURAL EDUCATION IN PERSPECTIVE

1.1. THE UNIVERSALITY OF UNITED STATES EDUCATION

In viewing the evolution of public schools in the United States, one finds that from the earliest times education has been an integral part of the citizens' thoughts. As far back as 1642, the General Court of Massachusetts ordered that selected men in every town would have the power to act for parents in matters of their children's education and employment. This decision was reached after taking into consideration the great neglect of many parents in training their children, in learning and labor, to be of profit to the commonwealth (1). During that early time, the colonial schools were geared primarily to instruct children in learning to read, to understand the principles of religion and the laws of the country, and to ensure that these citizens were put to some useful work.

Later in our nation's history, George Washington stated in a letter to Robert Brook (2) that

> The time has therefore come, when a plan of universal education ought to be adopted in the United States. Not only do the exigencies of public and private life demand it, but, if it should ever be apprehended, that prejudice would be entertained in one part of the Union against another, an efficacious remedy will be, to assemble the youth of every part under such circumstances as will, by the freedom of intercourse and collision of sentiment,

> give to their minds the direction of truth, philanthropy, and mutual conciliation.

Because of George Washington's letter, the House of Delegates resolved that a university should be erected in the Federal City for the mutual exchange of diverse ideas. Other historical figures--such as Thomas Jefferson with his position on equality and excellence often referred to as the Jeffersonian Dispensation; Horace Mann and his education for a free society; Thaddeus Stevens and his plea for free schools--attempted to bring about a society wherein education was a central concern.

As America moved toward universal education, others began to look at it in a different light. W. E. Burghardt Du Bois became a spokesman for the quest of Negro education. Booker T. Washington added to this position as others began to stump heavily for education of the immigrant. Through the efforts of these men and other leaders for equality, the possibility of a universal education for all people became a reality.

The crusade is still being carried on throughout much of America, with the goal of ensuring that all peoples have an equal opportunity to an education. As recently as May 17, 1954, new postures were taken to assure equal educational opportunities: Chief Justice Earl Warren (3) expressed the opinion of the United States Supreme Court concerning the admission to public schools of people of all races. He stated that under no circumstances should people be segregated according to race;

that such segregation deprived the plaintiffs of equal protection of the laws under the Fourteenth Amendment.

1.2. EDUCATION FOR THE RURAL

Just as significant changes have taken place throughout the United States in the universality of education, so have these changes taken place with regard to the rural areas of our nation. Originally, almost all schools were rural in nature. As recently as 1938, there were 153,000 one-teacher schools in the United States. Most of those schools were under the direct control of those living in the small rural districts (4).

In 1956, the National Education Association (5) reported only 39,100 one-teacher schools in operation, with a sharp reduction in the number of school districts to 59,270 on July 1, 1955. The trend has continued to the present.

The reduction of one-room schoolhouses and of the number of school districts has been sought in order to organize districts capable of providing the quality of educational offerings which rural life demands.

Although the trend has been toward the consolidation of schools and school districts, providing a good education for rural people has been of major concern to the peoples of the United States. As recently as 1967, a publication entitled The People Left Behind (6), a report by the President's National Advisory Commission on Rural Poverty,

reported the needs of the rural people. The President of the United States, by Executive order, charged the National Advisory Commission on Rural Poverty with sundry responsibilities. One of these responsibilities was to explore new and better means of eliminating the causes of rural unemployment and underemployment, low income, poor facilities, and other related matters. Also, the commission was to develop recommendations for action by local, state, and Federal governments, or private enterprise as to the most efficient means of providing opportunities for the rural population to share in America's wealth.

Some of the findings of the commission were shocking. It was reported that

a. Close to 14,000,000 Americans are poor (annual income less than $3,000), with a high proportion of them destitute.

b. There is more poverty proportionally in rural America than in our cities. In metropolitan areas, one person in eight is poor and in the suburbs the ratio is one to fifteen; in rural areas, one in every four persons is poor.

c. Some 30 percent of our population lives in rural areas, but 40 percent of the nation's poor lives there. Within this total, there are nearly 3,000,000 families plus 1,000,000 unattached persons.

d. Most rural poor people live in small towns and villages, with only one in four of these families living on a farm.

e. Of the 14,000,000 rural poor, there are 11,000,000 whites.

f. The usual cutoff for determining a family as being poor is an annual income of approximately $3,000 per family. Yet, in rural America, 70 percent of the poor struggles on less than $2,000 per year and one family in four exists on less than $1,000 per year.

g. Schooling in low-income areas is as inadequate as incomes! Rural people generally have poorer schooling and are more severely handicapped by lack of education than are city people. Few rural poor adults have attained the general rural average of 8.8 years of schooling.

h. Low educational levels seem to be self-perpetuating. When the head of a rural poor family has no schooling, his children are handicapped in their efforts to get an education.

i. Rural people, handicapped educationally, have an especially difficult time acquiring new skills, getting new jobs, or otherwise adjusting to society's increasing organization.

j. The rural poor who lack education either concentrate on low-paying jobs in rural areas or swell the ranks of the

underemployed in urban areas.

k. Negroes, Indians, and Mexican Americans suffer even more than low-income whites from unemployment and underemployment, with their schooling usually being less than that of whites in areas of rural poverty.

l. For many rural children, hunger is a daily fact of life and sickness is expected. Many of the children are not only hungry, in pain, and ill, but also their lives are being shortened. They are losing their health, energy, spirits, and are dying directly or indirectly from hunger and disease. The children are starving to death!

m. Many people in underdeveloped areas have developed a culture of poverty. The poor have a different set of values. For example, education to the middle class stands as a road to self-betterment, but to some poor it has become an obstacle to surmount until one can go to work.

n. In answer to the position that any American who is poor has only himself to blame, the findings of the commission show impressive proof to the contrary!

o. In 1960, more than 700,000 adults in rural America had never enrolled in school. About 3.1 million had had fewer than five years of schooling and could be classified as functional illiterates, and more than 19,000,000 had not completed high school. More than 2.3 million rural

young people (aged 14 through 24) had left school before graduation. About 8.7 percent (some 199,000) had completed fewer than five years of school. Only 11 percent of the rural adult population had enrolled in college, compared with 11 percent of urban America. (Those rural students who do enroll usually score lower on entrance examinations and more often need remedial classes to correct educational deficiencies.)

The President's National Advisory Commission has made a valuable contribution to the United States by showing unquestionably that rural America needs help!

Earlier in this paper, you read about the emphasis leaders of our nation have placed upon securing, for each person, an equal right to an education. In this regard, much of rural America has been shortchanged! The time is now when educators must meet the needs of the rural American, providing for him not only a quantity education but quality as well.

A few projects, school districts, and schools have attempted to meet the demands of quality education for rural America. On the following pages, you will read of some innovations which have been tried. Their numbers are few and their goals lofty, yet succeed they must for, unless drastic changes are soon made, being from rural America will ensure a second-class citizenship!

Chapter 2

2. PROJECTS HAVING A MAJOR IMPACT ON RURAL SCHOOLS

In order to use the dollar wisely and still meet the objectives of education, it has been necessary to reduce, from a statistical point of view, the number of small schools in America. Yet even with massive reorganization and consolidation programs, an acute need for upgrading the quality of rural education has been evidenced. In the early 1950's, there was a concentration of efforts by numerous schools to upgrade educational quality in rural America.

Probably the beginning of theory-building for improvement of small schools took place in 1953 when a group of graduate students, under the direction of Dr. Frank Cyr at Columbia University, was assigned the task of developing a theory of small school design. The theory provided a catalyst for other projects in small school change. This chapter will give a brief outline of many of the major projects which came into being after 1953. Sadly, the number of such projects has fallen short of the demand for them.

2.1. THE RURAL SCHOOL IMPROVEMENT PROJECT

Berea College, with partial financial assistance from the Fund for the Advancement of Education, initiated in southeastern Kentucky the Rural School Improvement Project (7). The project, begun in 1953, had five basal areas in which most of the work was concentrated: (a) the teacher; (b) the pupil; (c) the community; (d) the buildings,

equipment, and grounds; and (e) the program of supervision. Based on the fundamental assumptions that good teachers are indispensable for good schools, and that good schools make for good communities, the activities of the project centered about the teacher. All efforts were directed at the intellectual, social, physical, and emotional growth of the pupil.

2.2. THE ROCKY MOUNTAIN AREA PROJECT FOR SMALL HIGH SCHOOLS

This project was initiated in 1957 under the sponsorship of the Colorado State Department of Education (8). With the financial support of the Ford Foundation, as well as state and local funds, five small high schools turned attention to the development and evaluation of materials and methods which could be advantageous to small schools. The number of participating high schools eventually grew to thirty-two. Major areas of exploration of the project included multiple classes, use of community resources, correspondence courses, flexible scheduling, interclassroom grouping for instruction, youth seminars, and the testing of the Encyclopaedia Britannica films in chemistry and physics. The focal point was with teachers and administrators of small schools in Colorado. Teachers were permitted to meet and work with consultants assembled for various workshops.

This Rocky Mountain Area Project eventually grew into the Western States Small Schools Project.

2.3. THE WESTERN STATES SMALL SCHOOLS PROJECT

Supported by the Ford Foundation, the Western States Small Schools Project began in 1962 and continued through 1968 with extensive funding. Since that time, funding has been minor and the project has not developed at its initial pace. Five states have participated in the project: Colorado, Arizona, Utah, New Mexico, and Nevada. Each state selects a director for the project, which is then coordinated through a central office.

Each state has focused upon its unique problems and has cooperated with its neighboring project states to find answers common to all. The Arizona Project has attempted to meet the needs of both students and teachers through individualizing the teaching-learning process. The Colorado Project has concentrated on new methods, techniques, and organizational patterns. The Nevada Project has employed a variety of instructional media and materials to reduce the effects of smallness and isolation. The New Mexico Project has emphasized linguistic reading and improved preparation for culturally deprived rural children, and Spanish has been stressed for the Spanish-speaking child. The Utah Project has developed guidelines for an environment to stimulate and encourage independent study and individualized programs of instruction; in addition, effective use of educational television in rural schools has been demonstrated.

In summary, the major emphasis of the program has been the cooperation of various state agencies on problems common to rural

education. The results of the Western States Small Schools Project are valuable throughout the nation.

2.4. THE NORTHWEST REGIONAL EDUCATIONAL LABORATORY

The Northwest Regional Educational Laboratory, as well as all other regional laboratories, came into existence as a linking agency. Its primary functions are to identify needed areas of research for the researcher and to translate research into practice.

The laboratory derives most of its funding through the Elementary and Secondary Education Act. One focus of the laboratory has been on improving rural schools. Among the areas being explored by the laboratory are (a) a model for creating a community environment receptive to innovative practices; (b) specifications for school buildings in which the needs of the rural community will be provided; (c) a self-instructional system for elementary school use, with emphasis presently being on mathematics; and (d) multiple-media self-instructional systems especially suited for use in the rural high school. Additional programs will be formulated and developed as funding is provided.

2.5. THE CATSKILL AREA PROJECT IN SMALL SCHOOL DESIGN

The Catskill Area Project in Small School Design (9) was established in 1957 as an outgrowth of a voluntary group known as the Catskill Area Schools Study Council. The project was financed by a grant from the Ford Foundation's Fund for the Advancement of Education and was initiated under the joint sponsorship of Teachers College, Columbia

University; Oneonta State Teachers College; and the Board of Cooperative Services of the several school districts located around Oneonta, New York. Member schools in the project--ranging in enrollment from 25 to 1,100 pupils--were located in Delaware, Otsego, and Chenango counties. After expiration of fund money, the project reverted to an organizational structure enhanced by a greatly expanded local support through boards of education.

Through several action-research projects, many feasible solutions for improving the educational programs in small schools were explored. Among the areas investigated were multiple classes, supervised correspondence courses, rural shared services, programmed instruction, technology for teaching (e.g., use of electronic communication), school aides, flexible schedules, and shared services for talented students.

2.6. THE TEXAS SMALL SCHOOLS PROJECT

The Texas Educational Agency initiated a statewide project for the improvement of small schools in 1959. In cooperation with the Texas Small Schools Association, the state was divided into nine regions which were further organized to conduct service programs throughout the calendar year. This has grown to include 149 schools, divided into twelve regions. In addition to inservice training, the project was aimed at offering an increased variety of educational experiences, initiating more effective use of facilities and equipment, individualizing instruction, and strengthening guidance and testing programs.

Some techniques which were introduced into the various schools included multiple classes; supervised correspondence study; cooperative service programs between schools whereby teachers, supervisors, and educational materials could be shared to provide increased educational opportunities; school aides to help teachers; flexible schedules; supplementary materials and equipment to augment the teacher; and some technological devices (especially the amplified telephone). The Texas Small Schools Project is financed through the Texas Education Agency and local support; no financial assistance is received from outside the state.

2.7. THE APPALACHIA EDUCATIONAL LABORATORY

The Appalachia Educational Laboratory, Inc., funded under the Elementary and Secondary Education Act, has had as its primary concentration rural schools isolated in the mountainous regions of Appalachia. However, the work at the laboratory does have implications for rural education throughout America. The laboratory is working toward high-quality education for rural children through the use of modern educational media and mobile facilities. Modern technology makes possible the delivery of the finest curriculum, services, and personnel to the smallest isolated hamlet as well as to the large urban system.

Major thrusts of the laboratory up to this time have been

a. A reading and language development program based on reading technology, animated cartoons to teach word recognition, phonetics, and spelling. Initial lessons

are designed for preschool children and will be made available eventually, via television, to children throughout Appalachia.

b. A student-activated system providing vocational information for education and work. The program is developed to give Appalachian young people information about job opportunities and a greater awareness of themselves.

c. The use of home-oriented preschool education using television, home visitation, and a mobile classroom.

d. The educational cooperative, which is a system of education engineered to increase access to educational opportunities and to improve educational quality. The educational cooperative works by small contiguous school systems joining together for the creation of new capacities which would not have been implemented under the preexisting structure. An instructional program presently being developed is a language program utilizing animated cartoons to provide speech models and reading instruction. Another program is the adaption of several conventional courses for sharing among schools through the use of media and mobile facilities.

e. Designs for course sharing among high schools. This topic might also be considered as a feature of the educational

cooperative but, beyond this, the laboratory has prepared a descriptive design of each course which could be adapted for different types of school programs and shared among the schools. The design for each course includes specifications for organization, personnel, subject matter, and equipment and facilities. Courses taught in some schools by well-qualified, competent teachers may be transmitted to other schools through the singular or combined use of media technology and mobile facilities.

2.8. THE OREGON SMALL SCHOOLS IMPROVEMENT PROJECT

The Oregon Small Schools Improvement Project has worked very closely with the Northwest Regional Educational Laboratory in Portland. The project centers on curricular innovations, with a high degree of emphasis on individualized instruction, teacher utilization, and scheduling modifications.

2.9. THE ALASKA RURAL SCHOOLS PROJECT

The Alaska Rural Schools Project--initiated under the direction of the University of Alaska to train teachers planning to enter the service in wilderness schools--was also concerned with developing instructional materials and educational objectives pertinent to the environmental-cultural situations in remote villages. The project has had the cooperation of the United States Bureau of Indian Affairs and

the Alaska State Department of Education. Recently, additional cooperation has been received from the Northwest Regional Educational Laboratory.

2.10. THE UPPER M[illegible]WEST SMALL SCHOOLS PROJECT

The Upper Mid[illegible]t Small Schools Project, begun in the summer of 1964, includes fif[illegible]en member schools in North Dakota and one in Montana. Objectives of the project are to identify potential leaders in rural education, to provide assistance and materials in developing this leadership, and to establish organizational patterns which will lead to the facilitating and incorporation of educational innovations.

2.11. THE SOUTHERN ASSOCIATION'S RURAL EDUCATION IMPROVEMENT PROJECT

The Rural Education Improvement Project, initiated in 1966 and sponsored by the Southern Association of Colleges and Schools, is a five-year project designed to interrupt the vicious cycle of cultural limitation in which many rural boys and girls have been trapped for so long. It involves a consortium of educational institutions, organizations, and collaborating agencies. The project currently includes a program in one rural center in each of three southern states: Florida, Georgia, and Tennessee.

The project in the three rural centers is coordinated by John E. Codwell and other staff members of the Southern Association's Education Improvement Project. Each center has a governing board which consists of the superintendent of the school district, the presidents of the

cooperating colleges and universities, a representative from the state department of education, and a member of the professional staff of the Southern Association of Colleges and Schools. Each center also has a project staff under a director. This rural center director and his staff administer the programs in their respective centers.

The following interventions are included in the programs of the three rural centers: teacher education (preservice and inservice), communication and computation skill development, tool technology and integrated occupational education, extended school year arrangements, continued progress in learning (nongraded arrangement), family involvement, cultural enrichment, school-home-community agent liaison service, and paraprofessional staff aide service.

Chapter 3

3. SPECIFIC INNOVATIONS IN SMALL SCHOOLS

In spite of the deepening interest of educators in changing rural schools, many of those intimately involved in the schools have believed in the infallibility of belongingness and have often been irritated when anyone has suggested that perhaps the old way was not effective. Although there have been pressures to maintain the status quo, exciting innovations have been introduced with the hope of improving rural education. The purpose of this chapter is to expose the reader to many of these innovations and to give at least one location for each of the innovative programs.

3.1. THE USE OF TECHNOLOGY

Use of technology for assisting rural and/or isolated schools is receiving more consideration than at any other time in history. At this writing, mammoth projects such as satellites to beam instructional messages to isolated students are in the conceptual stages. However, the purpose of this section is not to discuss the possible uses of technology but rather to write of innovations now being used with great success: amplified telephone, instructional television, computer-assisted instruction, electronic communication equipment, and busing.

3.1.1. Amplified Telephone

For many educators, the use of instructional resource people has

not been feasible because of their inaccessibility. However, the amplified telephone system has made this a problem of the past. By placing an inexpensive amplifier on a telephone (estimated cost of $10 per month), groups of students are able to listen to, and interact with, a person located miles away.

A pilot program, which linked several Colorado schools ranging as far apart as 265 miles, used the conference-call method to transmit instruction in American history. The instructor was located in his office at Gunnison, while the students remained in class at their small school. Lecture topics ranged from the Roaring Twenties through the Cold War. Advantages included instantaneous two-way communication, lack of extensive travel, and use of specialized discussion personnel on a short-term basis.

Other examples of amplified telephone programs were those developed under the direction of the Western States Small Schools Project. Schools in four states were linked for different conference classes. One of the most productive endeavors was an art class originated in Mesquite, Nevada. Instructors of "Art by Telephone" sent overlays and other projective materials to the schools ahead of the biweekly scheduled class time and then lectured and held discussions with students in four states by use of the amplified hookup. Almost all high school students who participated in the class were having their initial exposure to art.

3.1.2. Instructional Television

At the 1970 American Research Association Meeting, Hubert Humphrey referred to instructional television as a "fantastic aid for teaching." At this time, the present author is not sure that he can agree with Humphrey's statement since, in many research endeavors with television, it has been found that television has been a poor substitute for a poor teacher. However, there is no question that television has great potential.

The March 1970 issue of Phi Delta Kappan cites a very good example of the impact television can have. According to James J. Gallagher of the U.S. Office of Education, a large volume of mail praising the program "Sesame Street " is being received both by his office and local stations. It is also noted that research results have been just as glowing. Preliminary tests in Maine, New York, and Tennessee have shown that, after six weeks of viewing the broadcast regularly, poor students were making achievement gains two and one-half times as great as a control group of youngsters who did not watch the program.

Among projects that have been developed to help the rural poor are those located in Hensley, Arkansas; Gadsden, Alabama; and Salt Lake City, Utah.

The Hensley Elementary School (10), with its seventy-two students and three teachers, has incorporated twelve educational television programs as a regular part of the curriculum. Grades one and two may view a program in music, science, art, or speech while other grades

are given programs in history, art, music, science, or current events. Ten teaching specialists give the presentations via the television, with the main objective being enrichment.

The Etowah County Board of Education in Gadsden, Alabama, under the direction of Superintendent C. C. Davis (11), has attempted to equalize the curriculum of the various county schools through technology. The prime technological tool during the 1969-70 school year has been television. Through the use of live microwave television production, seven high schools have received large-group instruction in five basic areas. The school district is now attempting to use the system live, with the expectation that production costs can be minimized and a more genuine message will be broadcast to the students.

In Salt Lake City, the Utah network for instructional television (UNIT) has been formed (12). Through cooperation with UNIT, the state department of public instruction, several school districts in the state, and local educational television stations are striving for high-quality instructional television programs. Thus far, cooperation has been enlisted from school district production centers, regional and national libraries, and the state's own production agency in Salt Lake City. These agencies have attempted to enrich curricular offerings in the rural school through the exchange of materials and utilization of sources already in existence. During the 1967-68 school year, in addition to enrichment offerings, UNIT scheduled fifty-three elementary and secondary courses and two and one-half

hours of inservice teacher education each week throughout the school year.

With enrollment being reported as high as 15,000 students, perhaps UNIT's producers make much sense. There is very little reason, except protecting one's dynasty, why those using television units cannot cooperate extensively just as they often do in using 16-millimeter films.

3.1.3. Computer-assisted Instruction

Many rural schools are beginning to feel the pressures of big businesses in education. Until very recent times, businesses concentrated on large school systems but, with the appearance of Federal monies, contracts have been established in rural areas. Among the highly expensive systems being sold (or rented) are those belonging to the computer field.

Probably the most publicized work with computers is that done by Patrick Suppes and his staff at the Institute for Mathematical Studies at Stanford University (13). These workers have attempted to build the computer system into a program for individualized instruction through three levels of student-computer interaction. The first is drill and practice used to supplement the regular curriculum taught by the teacher. The second is a tutorial system which has been developed to take over the main responsibility for developing skills in the use of a given concept. The third system, which is still in the formative stages,

is the dialogue system. It is envisioned as computer programs and appropriate terminal equipment to enhance genuine dialogue between the student and his program.

At the present time, computers are much too expensive for schools but, with time-sharing being introduced by various businesses (especially banks), and with adaption of present systems by telephone companies, computers soon will be available to all. At that point, one will need to ask the question, "Are they a help or a hindrance to learning?" Without question, they will be of very little value without good programs.

3.1.4. Electronic Communication Equipment

Additional electronic communication equipment is being used across the nation. Audiotape recording equipment, information retrieval systems, single concept projectors, and teaching machines with both branching and linear programs are a part of all modern school programs. Probably the best example of a rural school that has implemented and is using these technological aids is the Hagerman Idaho Individualized Learning Center.

Brown, Lewis, and Harcleroad (14) used the center for over eighty pictures in their 1969 edition on instructional media. The book also gives a highly valuable commentary on the importance of technological processes in education.

A film on the Hagerman Learning Center, along with valuable dissemination information, may be obtained by writing to the Superintendent of Schools, Hagerman, Idaho.

3.1.5. Busing

Many isolated schools are still in existence because of the extensive time involved in transporting students from home to school. Probably in the future, this concern will to some extent be eliminated through the use of vehicles and helicopters which will transport students over rough terrain, snowed-in roads, and other presently defined major obstacles. However, for the present, many students must board school buses in the bitter predawn hours to be on time for school.

For students such as these, one school district in the Colorado Rockies has demonstrated how profitable use may be made of transportation time (15). The Gunnison Watershed School District measures approximately 3,200 square miles but serves a population of only 1,513 students, many of whom spend more than forty hours per month in traveling to and from school. The school district has adapted a passenger bus by adding electronic gear which includes a seven-channel audiotape deck and headsets for each passenger. Each student has his own volume and channel selector controls. The first three channels are planned for different student age levels. One channel delivers A.M. radio programs, with the remaining channels being reserved for special independent study tapes requested by individual students.

Each week, students receive listening guides on the programs available and choose the channel which will most closely meet their needs.

In addition to tapes used for supplementary and enrichment work, tapes of appropriate special events at the community and school are broadcast. In this way, students have an opportunity to become involved in some of the activities that they would otherwise have missed. The audiotape concept has also been adapted to include the use of videotapes by some school districts (e.g., Delta, Utah).

In the future, one will find both video and audio processes more in use by those school districts involved in transporting students. For the present, due to the durability of the equipment, the author would suggest using audiotapes.

3.2. ARRANGEMENTS FOR LEARNING

The arrangements for learning the author has chosen to discuss are modular (flexible) scheduling, team teaching, nongraded schools (continuous progress), individualized instruction, multiple classes, correspondence, and shared services.

3.2.1. Modular Scheduling

Among the scheduling arrangements for learning being discussed with widespread disagreement is modular scheduling.

One school utilizing this type of schedule is in Mesquite, Nevada: the Virgin Valley High School has been using 30-minute modules of time

since 1963, yet various elements of the community and school are still ready to debate the "pros and cons" of the program at almost any time (16, 17).

Usually when one uses a modular schedule, he finds it necessary to use a computer to keep track of the divergent options available. This is even more true when one uses 15-minute modules of time.

At Mesquite, this concern has, to some extent, been eliminated through adoption of a hand-generated modular schedule system which is adaptable in schools with enrollments of 200 to 300 students.

Another successful hand-generated daily modular schedule is located at Pahranagat Valley High School in Alamo, Nevada (18). It would be highly valuable for those in very small schools who are anticipating adoption of a different schedule to communicate with the Pahranagat school leaders.

Since most computer programs are located long distances from rural schools, a hand-generated system has the advantage of immediate implementation. Another advantage of a hand-generated system is the moderate expense. Most school districts are presently paying large sums of money to consultant firms to do their scheduling. Rural school districts in most instances cannot absorb this prohibitive cost.

The reason most often given for the adoption of modular scheduling into small schools is that this type of schedule allows some teachers to maintain a rather traditional program yet permits other teachers to explore new methods of instruction.

The Western States Small Schools Project has found modular scheduling to be its most popular method of meeting the need to revise or alter the existing organizational structure of educational programs (19). Yet the author believes that there are generally better types of scheduling procedures for rural schools than the modular schedule. Among options other than modular scheduling are floating periods, rotating schedules, and periods of varying lengths.

The Etowah County School District in Gadsden, Alabama, has implemented a flexible rotating schedule that has allowed time for large-group, small-group, and individualized instruction. It has been found in Etowah County that a good schedule greatly enhances the freedom for teachers to provide new programs and procedures.

Often small schools have endeavored to imitate large school schedules instead of using the options available to them for building their educational programs around the needs of individuals and small groups. Believing that the railroad-type time schedule was not the thing for small schools, the Catskill Area Project in Small School Design (20) found the following most suitable: (a) longer periods which are scheduled four times per week instead of five, (b) rotating periods which allow for each class to meet during the optimum learning time in the school day, (c) morning and evening schedules which are interchanged every two weeks, and (d) two or more master schedules which may be changed as divergent needs arise. The success of these relatively minor schedule changes leads to more student and teacher interest and activity.

3.2.2. Team Teaching

Team teaching has been defined by Robert Anderson (21) as a formal type of cooperative staff organization in which the teaching group accepts the responsibility for planning, implementing, and evaluating an educational program, or some major portion of a program, for an aggregate of pupils. Usually in smaller schools, the team teaching is confined to cross-discipline teaming. This technique has been used with some success in Helena, Alabama, where social studies and humanities are team taught.

The rationale most often given for team teaching is that it allows more time for teachers to work with specific students. There is also an opportunity to interface subject disciplines, thus demonstrating the overlap of content and relevance of materials. Proper teaming, according to some, also allows for additional flexibility in the instructional processes.

3.2.3. Nongraded Schools (Continuous Progress)

The nongraded school has been defined as a school which provides for continuous upward progression of all pupils from the slowest to the most able. This type of school was organized in 1963-64 at Largo Canyon (50 students in grades 1-8) in the Jemez Mountains School District, Gallina, New Mexico. Objectives of the school were to ensure (a) that each student mastered the necessary basic skills and essential subject matter, (b) that each student developed individual responsibility for independent study and progress, (c) that each student was encouraged

to find satisfaction in learning, and (d) that students were encouraged to develop their own particular talents to the maximum. Satisfactory progress was noted in achievement and attitude tests given students. The teachers and administration seem highly satisfied with the program (22).

Other schools experimenting with team teaching--such as the Becknell, Utah, elementary school in Wayne School District--have nongraded the first three grades of the school. The results have been satisfactory.

In Springfield, Vermont, a nongraded program has been developed to enable students to gain vocational trade experience with machines (23). Students in the school were allowed to spend complete days for five continuous weeks in developing their skills at a local machine tool company. The results were not only positive for the individual students but also proved valuable in assisting teachers to consider needs of individual students. The result was a modified nongraded school in all grades.

3.2.4. Individualized Instruction

Individualized instruction is a structure or plan devised to assist faculty members and learners in attaining objectives of the school. It is a means of attaining desired ends and is not an end in itself.

Broad definitions of individualized instruction have been used. They have included supervised correspondence instruction and programmed learning (24).

Other literature has narrowly defined individualized instruction. Programs such as individually prescribed instruction (IPI) identify the functions for both the teacher and student in specific terms. The two main functions of the teacher in IPI are diagnosis and prescription. Students move through pre-tests, curriculum-embedded tests, and post-tests in directed sequences.

IPI can be observed at the Rocky Boy Indian School in Havre, Montana, as well as at more than one hundred schools throughout the United States. The source for additional information on IPI is Research for Better Schools, Inc., 121 South Broad St., Philadelphia, Pennsylvania 19107.

Individualized instruction is a distinct advantage of a small, rural school. Hartenberger (25) has defined five factors operant in individualization: direct goal-centered influences of the community, teacher preparation, classroom environment, use of physical plant, and optimal use of school funds. In Hartenberger's writing, specific innovations in Moccasin, Montana, schools are cited.

Another example of a specific individualized program is in Wells, Nevada (26). An individualized English program was developed in the high school with results to date showing high promise.

For one desiring extensive information on outstanding individualized programs, the author recommends a visit to Hagerman, Idaho, where, through the assistance of Federal funding, programs in almost all subject areas have been individualized in grades 1-12.

In addition, the publications by Stutz and Merrell (27), Nichols et al. (28), and Jesser (29) provide readings on individualized instruction as implemented under the Western States Small Schools Project.

3.2.5. Multiple Classes

In many small high schools in the Catskill area, young women and men work in small groups in the same room at the same time with the same teacher but studying different subjects (30). In one school, for example, six students study intermediate algebra, six study trigonometry, and four study advanced mathematics in the same classroom under the direction of one teacher. In other rooms, one may observe courses in art, shop, or business under the direction of one teacher. Similarly, classes are taught in French I, II, and III at the same time, as well as divergent levels of social studies. Responses concerning the courses have generally been very good, although one finds it necessary to ensure good preparation and planning on the part of the teacher. Without question, this solution is better than not having the classes available because of a small enrollment.

3.2.6. Correspondence Courses

The correspondence-instructional process begins when the school sends the student a package of educational materials containing components such as textual material, how-to-study advice, instructional aids, and audiovisual material. After studying the prescribed materials and

completing the assignment and/or examination, the student returns his work to the school. The instructor corrects, evaluates, and grades the student's work, adding the necessary comments. The corrected work is returned to the student and the cycle begins again.

The Catskill Area Project in Small School Design (31) used correspondence courses with noted success. Using a multiple-class approach, students who wanted to study German could do so under the supervision of a French teacher, or during independent study periods. Advanced mathematics, necessary to gain entrance to engineering school, was taken by a young man under the guidance of the math teacher. The course was arranged during a lower-level course time, and the student did his own correspondence work with supervision and assistance being given when necessary.

3.2.7. Shared Services

Because of the small size of most rural and isolated schools, a prevalent practice called shared services has come into being. This is a rapidly growing practice among schools which are now arranging for specialists and materials they could not have had without cooperative arrangements.

The best source the author has found in locating shared service projects is a series of reports by the Northwest Regional Educational Laboratory (32-35). Part One (32) of the series defines shared services and organizational patterns under which shared services exist. It describes the activities which focus on the needs of pupils and

teachers; outlines activities which facilitate the educational program; and assesses the effects of shared services.

Part Two (33) of the series is an annotated bibliography of 32 books and 36 articles which describe various attempts to improve rural education. Evaluation of more than 200 possible sources identified those entries which were selected for inclusion in the bibliography as the best materials to lend knowledge to the area of shared services.

Part Three (34) of the series identifies 215 sites in 48 states which exhibit potentially significant attempts to improve rural education through some method of sharing services. A brief resume of each project is indexed by state and subject area, utilizing ERIC descriptors.

Part Four (35) of the series presents a model to disseminate to rural educators information concerning shared services.

The most promising shared services programs located by the author for discussion in this section are California's mini museum, Project Mid-Tenn's innovations, mobile library services, and educational service centers.

3.2.7.1. Mini Museum

An ingenious service is shared among the widely separated desert communities of Southern California, where three school districts (San Bernardino, Inyo, and Mono) have arranged for shared services

in art. Since many children in these rural areas had never seen works of art, let alone be shown how to draw and use art materials, a bus was converted into a museum on wheels. Personnel from Southern California art museums, colleges and universities, and local civic and cultural organizations provided valuable assistance and advice to the school districts' project. Through a mini museum, art is being shared with those who have been without. The students' attitudes and knowledge have been strengthened via this service (36).

3.2.7.2. Project Mid-Tenn

Project Mid-Tenn (37) provides its students with a children's museum by means of a large tractor-trailer rig currently called the "yellow submarine." Children in mid-Tennessee are being shown various educational exhibits in science which are designed to promote inquiry.

In addition, students have been enriched through a visit by the Nashville Symphony Orchestra. Before the visitation, pre-concert materials were provided classroom teachers; after the concert, informal conferences between musicians and pupils in the schools were held. Provisions have been made to provide music clinics following the concerts. These clinics, designed to generate local interest in continuing musical programs, are to be conducted by orchestra members for interested musicians in rural areas.

3.2.7.3. Library Services for Rural Youth

Ninety percent of the 27,000,000 Americans who did not have access to local libraries in the late 1950's were from rural areas. Another 53,000,000 had access to inadequate libraries. To alleviate some of this problem, a bookmobile service has been provided in many rural communities. A bookmobile is a converted van becoming a library on wheels. The mobile library stops, often about a week apart, in the rural communities. Through this shared service, the cost of materials and personnel (often a driver and a librarian) is distributed among many districts, thus providing adequate library service (38).

3.2.7.4. Educational Service Centers

To take advantage of Federal assistance, many rural districts have joined together forming regional educational centers. This has created a new concept commonly referred to as "coordinated planning." In this manner, a small district can share in project writers and can combine needs to gain the necessary programs (39).

One such center was a two-state venture which served 100 school districts in seventeen counties of North Dakota and Minnesota. The center, located in Grand Forks, North Dakota, is called the Upper Red River Valley Educational Service Center. The major goals of the center are (a) to provide psychological diagnosis, testing, and treatment,

as well as counseling and guidance services; (b) to assist schools in developing and implementing inservice training for their teachers; (c) to act as a catalyst and resource agency to schools in promoting and developing curricular and instructional improvements; and (d) to provide cultural enrichment opportunities to schools and communities (40). So far, the results in achieving the goals have been promising.

3.3. MISCELLANEOUS INNOVATIONS

Within this section are the innovations in rural schools the author chose not to group in any particular manner because of their interfacing qualities. Topics included for discussion are instructional resource centers, preschool education, paraprofessional aides, programmed instruction, guidance services, job placement, occupational training, foreign language training, multi-media self-instructional systems, and inservice teacher education.

3.3.1. Instructional Resource Centers

3.3.1.1. Hagerman, Idaho

Small, rural schools generally have not provided adequate individual learning opportunities to challenge and develop sufficiently the talents and abilities of the students.

One of the best examples of what can be done to overcome this problem is the individualized learning center at Hagerman, Idaho. In the belief that innovation in education implies new processes, media, systems curricula, organizations, and utilizations to enhance learning,

an educational facility was developed for these purposes. Through the teamwork of patrons, professional educators, architects, and educational consultants, Hagerman High School--contained in a 1924 cement building--was remodeled into a planned space for individualizing instruction. Among the spaces provided were a keys area for materials-location, an instructional materials storage area, and a production and control area. Within each of these areas, form followed function. Service to students became the primary goal. The center provided spaces for students to work alone or in small groups, spaces for students to talk or work in silence, and spaces for students to interact with machines and teachers.

Because of the uniqueness of the Idaho center, more than 2,500 people have toured it, including visitors from twenty states and four foreign countries. In addition, Parade Magazine presented the Hagerman Individualized Learning Center with the Pacemaker Award for achievement in leading the way to better education.

Those wishing to learn more about the center can view a relatively good film, "More Different Than Alike," wherein Hagerman is one of five schools viewed. Also available is an exceptional 28-minute film, devoted exclusively to Hagerman, entitled "Teaching the One and the Many." These films have been prepared by the National Commission on Teacher Education and Standards (NEA TEPS). For those interested in reading about the learning center, a free publication, Ideas, Individuals, and Learning, is available from Hagerman High School, Hagerman, Idaho.

3.3.1.2. Kalispell, Montana

Another instructional resource center designed to assist students indirectly is located at Kalispell, Montana. The objectives of the Flathead County Program are (a) to provide inservice training for teachers in science, music, and art; (b) to provide inservice training for teachers about educational technology; (c) to provide special materials and equipment for teachers in the foregoing subject areas; (d) to provide supervision and demonstration techniques in the foregoing areas; and (e) to provide guidance and counseling service to the schools of Flathead County, Montana.

3.3.2. Preschool Education

With the advent of Head Start, many of those concerned with rural education are beginning to focus on preschool needs. Sadly, this focus has not been all-encompassing; many states still do not offer the option of kindergarten programs.

The Appalachia Educational Laboratory (Box 1348, Charleston, West Virginia 25325) has developed a home-oriented design for preschool education of three-, four-, and five-year-olds. The program consists of a daily television lesson which is broadcast on a commercial television station and received by the child at his home. Weekly, a paraprofessional visits the home to counsel with parents and to deliver materials to be used by the parent and child. Group instruction is provided once each week in a mobile classroom which locates near the student's home for convenience.

The laboratory class developed their materials, packaged in behavioral-objective form, based upon the needs of three-, four-, and five-year-olds. They have found the cost to be about half that of conventional kindergartens.

Certainly the Appalachia Educational Laboratory's approach to preschool education is a unique one, using modern technology, mobile facilities, and new methods for meeting the needs of the rural American.

3.3.3. Paraprofessional Aides

In rural America, the teacher is becoming an ever-increasing cost to the taxpayer. Early in the history of our country, the cost of a teacher was restricted to the teacher boarding at various homes, plus a small pittance. Today, he is paid a very large portion of the school's operating allowance. For this reason, teachers are much too expensive to perform such routine functions as taking attendance and maintaining attendance records; marking objective tests; duplicating teaching materials; assembling films and other audiovisual aids; proctoring examinations; clipping, mounting, and filing instructional materials; preparing visual teaching aids; locating reference materials; supervising restroom periods, halls, cafeterias, and loading of buses; assisting students with wraps; or performing other tasks which do not require an instructional decision.

The question may be asked, Who performs the foregoing tasks? The answer is the paraprofessional (often called the school aide or

teacher aide) such as can be found in schools utilizing Individually Prescribed Instruction. Among the rural IPI schools where the author watched the aides at work were Hagerman High School in Idaho and Rocky Boy Indian School in Montana.

At Hagerman, the aides were usually high school students working under the direction of a trained teacher. Undoubtedly, their performance as aides paid them more dividends in the affective domain than any experience encountered throughout the school day. They received much more than they gave. Indicative comments often overheard at Hagerman were exemplified by the remarks of a tenth-grade female aide: "I really wanted to work with Judy (a second grader) because many of the problems she is having I also had. I really understand myself better when I am with her."

A teacher stated, "I was really having trouble with that boy (a twelfth grader) but, since he became my aide, I understand him better. He is really not so bad, he just needs attention. In fact, I do not know what I would do without him."

A potential dropout (fifteen-year-old female) remarked, "I thought I had problems.... Wow! Some of those kids hardly have a chance. Seems like the cards are stacked against them. Hope I can finish college someday. I would like to become a teacher so I could help them. Being an aide has really opened up eyes. Was I ever wrong!"

At Rocky Boy Indian School the aides are women who have come from the reservations to work. They have given additional insight about

the lives of the children and often have assisted in breaking down the communication barrier which so often is a major problem in the school. Besides the great service provided the school, the work has provided the reservation mothers with much-needed income for the welfare of their families. Both parties have been richly benefitted.

One might ask what function the teacher serves. My answer is that hopefully he becomes a better teacher, for he now has time to plan, time to keep in touch with parents, and--of paramount importance--time to help individual students.

3.3.4. Programmed Instruction

Programmed instruction takes on many forms. There are adjunctive, linear, branching, intrinsic, idiomorphic, and mathetic programs. The programs are used both in book and machine form.

The two most common forms of programmed instruction are the linear and branching programs. In the linear program, students move from one learning frame to another through a predetermined course. All students move through all learning frames. In branching programs, students move from learning frame to learning frame, through many paths, often skipping large sections of materials they already know. All students do not move through all frames; they move through only the material necessary to give them the predetermined degree of learning.

A 1965 study completed at Clarion State College in Pennsylvania (41) reported on four hundred high school students who attempted to learn

through programmed instruction. The results were not as high as one would anticipate. Loss of effort toward completing courses was both steady and substantial as the students moved through the programs.

At Des Moines, New Mexico, programmed mathematics was used over a two-year period (42). The main purpose of the program was to overcome mathematics limitations of the collegebound students from small schools and to offer noncollegebound students a sound mathematics program. It was concluded that programmed materials should be used to supplement the able student and to assist the slow learner, rather than to replace standard instructional materials.

Another attempt to use programmed mathematics was used at Dora High School in New Mexico (43). The results held promise, but the problems defined above were still evident.

Results of the use of programmed materials seem to indicate that attention must be paid to the student's affective domain as well as to areas of skill. Without question, programmed learning usually becomes boring to the student unless the teacher can provide additional rewards. Still, it is much better to offer a programmed course rather than to offer nothing.

3.3.5. Guidance Services

Guidance services in rural schools have most often been provided by a kind teacher, usually a coach, who has had very little training in the guidance field.

In the literature of the 1960's, most writings about counseling services were relevant to the elementary level. It was assumed by most

writers that the services are being provided at the high school level. The assumption is not valid. Guidance services in small schools are almost nonexistent.

Among the few areas in the nation attempting to provide the necessary guidance services is Cochise County, Arizona. Through use of computer terminals and shared services, a well-rounded guidance program is being provided in many of their secondary schools.

Schools one might wish to study in terms of guidance programs are Virgin Valley High School in Mesquite, Nevada, and Patagonia High School, Patagonia, Arizona (44). Both schools have been involved in a career-selection education project developed by the Western States Small Schools Project. Objectives of the project were (a) to aid students in making realistic career selections, (b) to develop skills and competencies useful in many careers, and (c) to develop specific job-entry skills. A career-selection agent administered the program and coordinated the general educational and vocational education divisions of each student's program. An integral part of the program was the effective use of community resources for work experiences, exploration, observation, and analysis.

For one wishing to study a comprehensive guidance and counseling program, perhaps the best sources are the Rural Job Corps Centers (45). Another highly valuable source is Title V-A of the National Defense Act. An article by Warburton (46) evaluates the effectiveness of Title V-A guidance services in rural education. It also identifies the best features of guidance programs and attempts to describe how

rural youths have been helped toward their potential.

3.3.6. Job Placement

Under the direction of the Rural Youth Development Program, the New Jersey Office of Economic Opportunity has begun a program of vocational training, counseling, and job placement for rural disadvantaged New Jersey youths. The program, designed for ages sixteen through twenty-one, developed short-term employment at local and state levels. The second phase was designed to provide on-the-job training with public or private employees. Further information about this program can be obtained by writing the New Jersey Office of Economic Opportunity, Trenton, New Jersey.

In general, the area of job placement has been very poor for rural students. Not only is the school not providing the service but, in most cases, job-placement assistance from other social agencies is also nonexistent.

3.3.7. Occupational Training

Another large void in most small schools is the lack of occupational training. Perhaps this lack is one reason that so many rural youths fail to become a successful part of the country's labor force. This failure is even more pronounced for those rural youths who come from minority groups such as Negro, Spanish American, or Indian.

Some programs which have afforded training to rural youths include the Manpower Development and Training Act, the Economic Development and Public Works Act, the Economic Opportunity Act, and the Vocational

Education Act (47). Yet, most rural schools have not taken proper advantage of these programs and are presently failing to fulfill the vitally needed responsibility of teaching usable skills which will assist students in becoming productive members of society.

3.3.8. Foreign Language Training

The most effective foreign language training should involve a qualified language instructor, yet in many small schools this goal is usually not financially possible. To ensure some type of continuous language instruction for those students desiring such, rural schools have turned to self-instructional systems.

Such programs as the Northwest Regional Educational Laboratory's multi-media self-instructional system are explained in section 3.3.9, but often even these programs are not economically feasible.

A second option is the use of programmed materials under an interested instructor. To determine the success of this type of program, the Western States Small Schools Project (48) has Spanish taught throughout isolated schools in Nevada. Results have been favorable--with the recommendation that, if qualified instructors are not available, an alternative way to meet student needs is provided.

3.3.9. Multi-media Self-instructional Systems

A multi-media self-instructional system is a process using individualized programmed teaching techniques and devices to assist the learner in moving through a learning sequence at his own pace. The system uses films, slides, tapes, and printed materials to present

information in each learning sequence.

Presently, the Northwest Regional Educational Laboratory has developed such systems in welding, plastics, electricity, electronics, speech, mathematics, physical science, Spanish, shorthand, drafting, and arithmetic. The systems have been field tested in five western states, with Anatone, Washington, being the pilot school (49). Many programs are presently ready for use in all rural schools desiring them.

An example of a unit in action would be instruction in basic welding techniques as discussed in the January 1969 issue of the Northwest Newsletter (Northwest Regional Educational Laboratory, 400 Lindsay Building, 710 S.W. Second Ave., Portland, Oregon 97204). Equipment necessary for this unit is the Fairchild Mark IV 8-millimeter sound cartridge unit, eight instructional films, a student handbook, an instructor's guide, plus a welding unit. Through reading the handbook and viewing the instructional films, the student is guided in the process of welding. He then performs the skills as directed by the film or handbook. Individual success is measured by an instructor, who perhaps has not been a welder, using the guidelines set up in the instructor's guide.

This same type of process is used in the other skill areas although, depending upon the subject, different machines, steps, and handbooks are used.

3.3.10. Inservice Teacher Education

An excellent example of an innovative project for improving instructional performance of teachers in rural and small schools was conducted in 1969 under the direction of the Rural Education Project of the Southern Association of Colleges and Schools (50). The general purpose of the project was to determine the effect of an adaptation of microteaching on the instructional behavior of rural school teachers. Specific objectives were (a) to ascertain whether the opportunity for rural teachers to observe, analyze, and evaluate their teaching behavior (as recorded on videotape) had any relationship to a change in these teachers' instructional performances and (b) to identify the nature of this change in instructional performance in terms of general teaching competence, pupil-teacher interaction behavior, and teacher attitude.

Utilizing the statistical techniques of linear correlation, variance, and canonical correlation in the analysis and interpretation of data, the following were among the results obtained: (a) there were significant indications of improvement in each of the three centers in terms of instructional skill, pupil interaction, and teacher attitude and (b) none of the variables of sex of teachers, level of teaching position, and length of teaching service had a significant relationship to this improvement effect.

The results of this project led to the general conclusion that a rural school teacher's opportunity to see and hear his performance in

the classroom, as presented in such an arrangement as this project provided, has a highly significant improvement effect on this teacher's instructional performance.

Chapter 4

4. TOWARD A MODEL FOR CHANGE

Among the deceptive opinions still advocated in public schools, and most prevalent in the rural school subset, is the concept that we are living in the era of Frederick W. Taylor. Taylor, a popular author of the early 1900's, introduced the concept of scientific management through which specialized tasks were distributed by the manager. The manager used extensive time and motion studies, rigid discipline, concentration by workers on the tasks they were to perform, minimal interpersonal contacts between workers, and incentive pay systems.

Max Weber, building on Taylor's beliefs, postulated that organizations should have (a) a division of labor based on functional specialization, (b) a well-defined hierarchy of authority, (c) a system of rules covering rights and duties of employees, (d) selection and promotion based upon technical competence, and (e) a system of procedures for dealing with work situations (51).

From my readings and observations, it seems quite clear that the foregoing positions have been generally believed and are presently being used as a basis for the operation of rural schools.

With the advent of major Federal funding to bring about educational change (i.e., the National Defense Education Act of 1950, the Vocational Education Act, the Elementary and Secondary Education Act), rural schools were thrust into a new era of change. Much-needed money was

offered educators if only they would make the necessary adjustments in their school programs. The schools took the bait but, ir attempting to use the Weberian-Taylor model, found themselves in much trouble. They found that imposed change in the schools had only short-lived value and that community people of power, teachers, and students were organizing against them. Many practices which had proved to be of high value were being ignored.

Practices not being implemented, although they were available, were investments in educational technology. A massive Federally sponsored study, entitled To Improve Learning (52), has concluded that educational technology is failing to make any significant impact on the nation's schools. Numerous reasons for the failure are pinpointed by the Commission on Instructional Technology, among them being: (a) indifference or apathy on the part of administrators, (b) poor programs, and (c) lack of teacher knowledge. Inferences are made from the study that technology was imposed upon the system from outside agents.

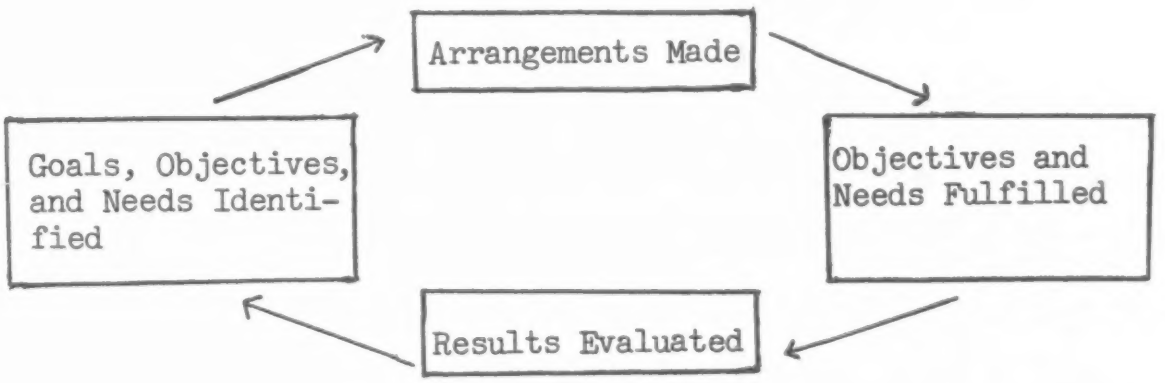
An interesting part of the study in change is that, for a short time, school personnel are caught up in the imposed idea, due perhaps to the Hawthorne effect; however, after a short period of "peace," the rural innovator is usually caught up in extended controversy which often leads to his removal from the change-agent role.

While at the Hagerman Individualized Learning Center in Idaho, the present author, with assistance from the center staff, developed a concept of involvement that has proved highly successful in bringing

about lasting changes in many rural schools. The basic assumption underlying the model for change is that teachers are different. Not only do they teach different subjects but they have different needs, knowledge bases, and expectations.

People in rural schools have for long periods of time mouthed the concept that their biggest strength is in the individual not getting lost among the masses. Yet rural administrators have more often than not lectured to the faculty about individualized instruction. Most have had the complete faculty present when telling teachers to treat each human being as a unique organism.

The Hagerman staff, after much introspection, recognized the fallacy of this practice, and the concept of "individualized inservice training" was initiated. The basic model is as follows:



Five steps are involved in the model:

1. At the beginning of the school year, an individual conference is held with each teacher by the change agent. The purpose of the conference is to outline long-range goals the teacher desires to accomplish during the school year. The goals are outlined for

each of the teacher's classes and are defined by the teacher with the change agent acting as scribe and communication catalyst.

2. Every two weeks throughout the school year, the change agent meets on an individual basis with the teacher to assist her in identifying short-range objectives which the teacher wishes to accomplish. These objectives are placed in priority order, with the procedures which will accomplish the objectives also being defined. The objectives are to be reached in a maximum of two weeks. A copy of the objectives and procedures is kept by both the change agent and the teacher.
3. An additional copy of the objectives is sent to the principal (or superintendent in very small districts). It is that administrator's responsibility to review the objectives and to facilitate their accomplishment. The administrator facilitates these accomplishments by notifying the necessary people of the teacher's need and by then arranging times, places, resources, and services to accomplish said needs.
4. At times during the year the needs are fulfilled by "outside" consultants such as reading specialists. At other times, people within the district can meet the requirements (such as counselor assistance in understanding standardized test scores and accumulative data).

Some teachers will be found to have verbalized to the change agent needs which are similar to those of other teachers. When this occurs, arrangements are made for small-group instruction.

5. The final step is an evaluation of the results. At the beginning of each conference (held every two weeks), the change agent and teacher review earlier defined objectives to ensure their completion. If the change agent receives negative feedback from the teacher concerning steps 3 or 4, he and the administrator rectify the problems. Accomplishing the objective is again attempted, along with new objectives defined during the last half of the conference.

After implementing the foregoing model in schools located in three different states, it is the author's contention that success is much more apparent, that changes remain even after changes of administrators, and that many far-reaching innovations are truly implemented in a short amount of time. Some areas which have been dealt with through the individualized inservice program are diagnostic testing, utilization of audiovisual materials and equipment, student accountability, parental relations, microteaching, staffing patterns, communication and interaction skills, reinforcement techniques, and cognitive, affective, and psychomotor objectives.

Each area comes about through the inquiry method. The teacher becomes the authority on her own needs. Together, the teacher and

change agent define strategies to meet those needs.

The administrator and change agent become the facilitators to implement the strategies. Extensive follow-up by the change agent ensures their completion.

Indeed, individualized inservice training is a movement toward a model for change.

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Association, 1605 New Hampshire Ave., N.W., Washington, D.C. 20009 [$2.75].)

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SELECTED SOURCES*

For further information on innovative practices in rural schools, the author suggests the sources listed below.

ED 014 344 MF - $0.25, HC - $0.35

WHAT IS NEW IN RURAL EDUCATION -- NFIRE.
Sturges, A. W., and Krahmer, Edward, University of North Dakota, College of Education, Grand Forks, May 1967, 5pp.

... Recognizing the surge in rural education efforts, 25 interested educators met in Salt Lake City, Utah, on April 28, 1967, to plan the National Federation for the Improvement of Rural Education (NFIRE). The objectives of the organization are to provide an on-going effort to reach the goal of comparable education for rural youth, and to coordinate efforts in rural education improvement. This article appeared in "The College of Education Record," Volume 52, Numbers 8 and 9, May-June 1967. (SF)

ED 016 550 MF - $0.25, HC - $0.35

SUPPLEMENTING THE PROGRAMS AND SERVICES OF RURAL SCHOOL SYSTEMS BY NEW TYPE REGIONAL SERVICE AGENCIES.
Loveless, John E., 1967, 5pp.

The intermediate district, established by law in New York State in 1948, is a cooperative educational venture providing small rural schools with services which are not usually possible, due to the size and isolation of these school districts.... (ES)

An explanation of the programs and process of several intermediate districts is discussed. (AW)

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*Most of these documents may be ordered from ERIC Document Reproduction Service (EDRS) in microfiche and/or hard copy according to the ordering instructions footnoted on page 55. Those documents listed as not being available from EDRS have alternate availabilities cited.

ED 020 030 NOT AVAILABLE FROM EDRS

APPALACHIA TRIES A CO-OP.
Rhodes, Charles W., 1968. This article appears in Education News, Vol. 2, No. 10, May 1968.

... Educators at the Appalachia Educational Laboratory in Charleston, West Virginia, have modified the educational park concept to take advantage of school consolidation while maintaining a personal relationship between teacher and pupil. As proposed, the educational cooperative would consist of a central facility, jointly constructed by smaller schools in the area concerned. From this facility, televised lectures by master teachers in a wide range of subject matter areas would be transmitted to local schools. A fleet of mobile laboratories would be scheduled and dispatched from the central facility to participating schools. Proposed components of a co-op of this size include educational television, mobile facilities, computer-assisted instruction, shared courses, early childhood education, and vocational guidance. Field tests are being conducted in 6 Appalachian states, each concentrating on a single phase of the proposed co-op. Evaluation has also been undertaken on an interaction analysis technique designed to aid in-service teachers in determining the degree of freedom a student may be allowed in expressing himself, while permitting control by the teacher. (DA)

ED 020 047 MF - $0.25, HC - $0.80

BIBLIOGRAPHY, RURAL EDUCATION AND THE SMALL SCHOOL.
Bohrson, Ralph G., Colorado State Department of Education, Denver, 1962, 14pp.

Approximately 176 books and articles published between 1912 and 1961 are listed in this bibliography on rural education and the small school. Emphasis is placed on general references, but about one quarter of the listings are placed under specific subject headings such as Buildings, Consolidation, and Library Service. The entries are alphabetically arranged under the specific area headings. (DK)

ED 020 055 NOT AVAILABLE FROM EDRS

SELECTED BIBLIOGRAPHY ON RURAL EDUCATION.
National Education Association, Washington, D.C., 1963.
Copies of this bibliography are available for $1.00 from the National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. 20036.

Some 283 books and articles published between 1947 and 1963 are

listed in this annotated bibliography on rural education. Two general sections list comprehensive volumes and other bibliographies, and the remainder are listed under specific subdivisions, i.e., School Organization and Reorganization, Administration and Supervision, The Changing Nature of Rural Society, The School and Its Community, Curriculum, Vocational and Adult Education, Testing and Guidance, Education of Children of Agricultural Migrants, Education for International Understanding, Stories for Children about Other Lands, Source Materials for Classroom Use, Pupil Transportation, School Law, and Research and Surveys. A cross-reference system is used to aid users in finding related materials listed in other sections. (DK)

ED 020 062 MF - $0.25, HC - $0.35

TEACHING THE RURAL DISADVANTAGED, PRELIMINARY BIBLIOGRAPHY.
National Education Association, Washington, D.C., 1968, 5pp.

Seventy-five books, articles, and bibliographies published between 1960 and 1967 are listed in this preliminary bibliography dealing with characteristics and learning problems of the disadvantaged. Particular emphasis is given to the preparation of teachers for the rural disadvantaged. (DK)

ED 021 020 MF - $0.50, HC - $4.75

INNOVATIVE PROGRAMS IN WESTERN NEW YORK SCHOOLS.
Searls, Laura G., Western New York School Study Council, Buffalo, 1967, 93pp.

Reported are 338 new programs and outstanding practices in school districts in western New York. The brief reports are presented under the rubrics of administration, teacher utilization, elementary education, secondary education, programs at both levels, and special education. It is pointed out that three-quarters of the programs are federally funded. (NH)

ED 022 609 MF - $0.25, HC - $0.25

COLORADO WESTERN STATES SMALL SCHOOLS PROJECT, BIBLIOGRAPHY, 1965.
Colorado Western States Small Schools Project, Denver, 1965, 3pp.

Forty-eight publications between 1958 and 1965 are presented in

this bibliography. Specific subject areas include reports on the Western States Small Schools Project, small school design, small high schools, continuous progress schools, social sciences, business education, elementary education, English language, reading, spelling, mathematics, and science. (DK)

ED 025 337 MF - $0.25, HC - $1.05

YOUTH IN RURALITY, A BIBLIOGRAPHY.
Charles, Edgar B., Comp., ERIC Clearinghouse on Rural Education and Small Schools, New Mexico State University, University Park, 1967, 19pp.

Approximately 200 books, pamphlets, and documents published between 1949 and 1966 comprise this bibliography on rural youth. The primary emphasis is on the education of rural youth, but included is a wide spectrum of subjects that impinge on the rural environment, such as mental health, vocational aspirations and opportunities, functions of the church, and economic variables. The documents are listed alphabetically by author. The bibliography was prepared for the National Outlook Conference on Rural Youth, Washington, D.C., October 23, 1967. (DK)

ED 025 357 MF - $0.50, HC - $3.85

RESEARCH ABSTRACTS IN RURAL EDUCATION: RURAL, SMALL SCHOOLS, INDIAN EDUCATION, MIGRANT EDUCATION, MEXICAN AMERICAN EDUCATION, OUTDOOR EDUCATION.
Edington, Everett D., and Tamblyn, Lewis, Comps., Department of Rural Education, Washington, D.C.; ERIC Clearinghouse on Rural Education and Small Schools, New Mexico State University, University Park, 1968, 75pp.

Compiled to acquaint the rural educator with materials in his field, 94 abstracts of some of the latest research and development findings published between 1959 and 1968 are listed in this bibliography. Emphasis is on rural education, small schools, Indian education, migrant education, Mexican American education, and outdoor education. The major portion of the bibliography is devoted to works on specific problems and needs, administrative organization, innovations, and planning. A cross-referenced index concludes the document. (SW)

ED 025 585 MF - $0.25, HC - $1.65

THE PEOPLE LEFT BEHIND; SEMINAR ON MANPOWER POLICY AND PROGRAM.
Bishop, C. E., Manpower Administration, Department of Labor, Washington, D.C., 1968, 31pp.

The National Advisory Commission on Rural Poverty was charged with the following responsibilities: (1) to make a comprehensive study and appraisal of the current economic situations and trends in American rural life; (2) to evaluate the means by which existing programs, policies, and activities relating to the economic status and community welfare of rural people may be coordinated; and (3) to develop recommendations for action by local, state, and federal government. The commission estimated that in 1965 there were 14 million people living in rural areas of the United States who were unable to purchase out of current income the goods and services needed to provide a reasonable level of living. Approximately 10 million of these lived in nonfarm residences and 4 million lived on farms. Although the percentage of non-whites who were poor was greater than that of whites, 11 million of the 14 million rural poor were white. The commission also reported that rural America's needs are so complex that no single concept of poverty is universally applicable. (CH)

ED 027 115 MF - $0.50, HC - $6.40

MOUNTAIN FAMILIES IN POVERTY. FINAL REPORT.
Johnson, Cyrus, and others, Kentucky University, Lexington, May 1967, 126pp.

Families participating in a program of Aid to Families with Dependent Children and Unemployed Parents were studied to obtain data on personal and health characteristics of adult members, socioeconomic characteristics of the family unit, and the interrelations of these variables. Interviews were conducted by trained interviewers with 324 families residing in 7 rural eastern Kentucky counties. After 3 months, 72 homemakers were reinterviewed to determine what changes had occurred resulting from the program. Most families were found to be improved financially; they were more hopeful about the future; and their children were improving in school activities. One hundred tables are included, giving data on family age, composition, and education; material well-being and level of living; work record and orientation to work; sickness and health; geographic and social isolation; and values and views on life. (JH)

ED 027 116 NOT AVAILABLE FROM EDRS

EDUCATIONAL ORIENTATIONS OF RURAL YOUTH IN SELECTED LOW-INCOME COUNTIES OF TEXAS.
Ohlendorf, George W., May 1967, 124pp. Master's thesis available through Inter-library Loan from Texas A & M University Library.

The general objective of this study was to learn the nature of associations for race and sex with several dimensions of educational orientations held by adolescents living in selected all-rural, low-income areas. A secondary objective was to evaluate the general utility of a new multi-dimensional conceptual scheme for the study of status orientations. A group-administered questionnaire was given to high school sophomores in 3 all-rural, economically depressed counties in Texas to determine the students' educational aspiration and expectation levels. Results indicated that Negroes had higher educational goal levels and expected attainment levels than did whites. Negroes, however, experienced greater anticipatory deflection from their educational goals, and they were more likely to be deflected positively. Boys had higher goals than girls, although no significant differences were found in intensity of aspiration, certainty of expectation, or deflection from their goal. Differences were greater in educational goal levels and expected attainment levels between sexes than between races. The multi-dimensional conceptual scheme was deemed fruitful. Definite implications were drawn for future policy-making and social action concerning racial differences. (CM)

ED 028 888 MF - $0.25, HC - $0.35

PROBLEMS OF NON-URBAN EDUCATION: A BIBLIOGRAPHY.
Busser, Robert L., and Humm, William L., Montgomery County Schools, King of Prussia, Pennsylvania, May 1969, 5pp.

Fifty-six articles and reports dating from September 1963 to May 1968 pertain to various factors and problems related to rural education and small schools. These factors include comparison of rural schools, educational and occupational plans and attainments of rural youth, dropouts, problems of minority groups, educational innovations, and inservice education of faculty members. (CM)

ED 033 257 MR - $0.75, HC - $9.15

RURAL EDUCATION AND SMALL SCHOOLS, A SELECTED BIBLIOGRAPHY. Wurster, Stanley R., and Heathman, James E., Comps., ERIC Clearinghouse on Rural Education and Small Schools, New Mexico State University, University Park, 1969, 181pp. Available in paperbound copy from Manager, Duplicating Service, P. O. Box 3CB, Las Cruces, New Mexico 88001 ($1.00).

Documents that relate to rural education and small schools and have been indexed and abstracted in "Research in Education" through September 1969 are compiled in this bibliography. Over 300 publications are cited, most of which were published after 1965. The citations include a wide variety of resource materials (research and program reports, guides, books, etc.) that examine educational needs, opportunities, and programs in rural and small schools. Abstracts follow each citation, and descriptor terms are used to provide a subject area index for the bibliography. Pricing information and availability of documents are provided. (JH)

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